



SEQUENCE LISTING

<110> Scheifflinger, Friedrich
Kerschbaumer, Randolph
Falkner, Falko-Guenter
Dorner, Friedrich
Baxter Aktiengesellschaft

<120> Factor IX/Factor IXa Activating Antibodies and Antibody
Derivatives

<130> 20695C-005900US

<140> US 09/661,992

<141> 2000-09-14

<150> AT A157600

<151> 1999-09-14

<160> 112

<170> PatentIn Ver. 2.1

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oligonucleotide MOCG1-2FOR

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oligonucleotide MOCG3FOR

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<210> 3

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oligonucleotide MOCMFOR

<400> 3

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<400> 4
 ctcatctctg ttgaagctct tgac

24

<210> 5
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 <223> Description of Artificial Sequence:hybridoma cell
 line 193/AD3 heavy chain CDR3 region

<400> 5
 Tyr Gly Asn Ser Pro Lys Gly Phe Ala Tyr
 1 5 10

<210> 6
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 <223> Description of Artificial Sequence:hybridoma cell
 line 193/K2 heavy chain CDR3 region

<400> 6
 Asp Gly Gly His Gly Tyr Gly Ser Ser Phe Asp Tyr
 1 5 10

<210> 7
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 <223> Description of Artificial Sequence:hybridoma cell
 line 193/AB2 (derived from antibody 198/B1) heavy
 chain CDR3 region, peptide B1

<400> 7
 Glu Gly Gly Gly Phe Thr Val Asn Trp Tyr Phe Asp Val
 1 5 10

<210> 8
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<223> Description of Artificial Sequence:hybridoma cell
line 198/A1 heavy chain CDR3 region, peptide A1

<400> 8

Glu Gly Gly Gly Tyr Tyr Val Asn Trp Tyr Phe Asp Val
1 5 10

<210> 9

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derived mutated peptide A1/1 scrambled version of
A1

<400> 10

Val Tyr Gly Phe Gly Trp Gly Tyr Glu Val Asn Asp Tyr
1 5 10

<210> 11

<211> 18

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<223> Description of Artificial Sequence:antibody 198/A1
derived mutated peptide A1/2

<400> 11

Glu Glu Glu Glu Gly Gly Gly Tyr Tyr Val Asn Trp Tyr Phe Asp Glu
1 5 10 15

Glu Glu

<210> 12

<211> 18

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<223> Description of Artificial Sequence:antibody 198/A1
derived mutated peptide A1/3

<400> 12

Arg Arg Arg Glu Gly Gly Gly Tyr Tyr Val Asn Trp Tyr Phe Asp Arg
1 5 10 15

Arg Arg

<210> 13
 <211> 18
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 derived mutated peptide A1/4 scrambled version of
 A1/2

<400> 13
 Glu Tyr Gly Glu Gly Tyr Gly Glu Val Asn Glu Tyr Asp Glu Phe Glu
 1 5 10 15

Trp Glu

<210> 14
 <211> 18
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 derived mutated peptide A1/5 scrambled version of
 A1/3

<400> 14
 Val Arg Tyr Arg Asn Arg Tyr Arg Trp Gly Tyr Arg Gly Arg Phe Gly
 1 5 10 15

Asp Glu

<210> 15
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 derived mutated peptide A1/3-scr3 scrambled
 version of A1/3

<400> 15
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Arg Arg

<210> 16
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<210> 19
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 derived mutant peptide A1/3-13 Alanine scan
 E-1-A-1

<400> 19
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 1 5 10 15

Arg Arg

<210> 20
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 derived mutant peptide A1/3-1 Alanine scan G-2-A-2

<400> 20
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 1 5 10 15

Arg Arg

<210> 21
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 derived mutant peptide A1/3-2 Alanine scan G-3-A-3

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 1 5 10 15

Arg Arg

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derived mutant peptide A1/3-3 Alanine scan G-4-A-4

<400> 22

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1 5 10 15

Arg Arg

<210> 23

<211> 18

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<223> Description of Artificial Sequence:antibody 198/A1
derived mutant peptide A1/3-4 Alanine scan Y-5-A-5

<400> 23

Arg Arg Arg Glu Gly Gly Gly Ala Tyr Val Asn Trp Tyr Phe Asp Arg
1 5 10 15

Arg Arg

<210> 24

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:antibody 198/A1
derived mutant peptide A1/3-5 Alanine scan Y-6-A-6

<400> 24

Arg Arg Arg Glu Gly Gly Gly Tyr Ala Val Asn Trp Tyr Phe Asp Arg
1 5 10 15

Arg Arg

<210> 25

<211> 18

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence:antibody 198/A1
derived mutant peptide A1/3-6 Alanine scan V-7-A-7

<400> 25

Arg Arg Arg Glu Gly Gly Gly Tyr Tyr Ala Asn Trp Tyr Phe Asp Arg
1 5 10 15

Arg Arg

<210> 26
 <211> 18
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<220>
 <223> Description of Artificial Sequence:antibody 198/A1
 derived mutant peptide A1/3-7 Alanine scan N-8-A-8

<400> 26
 Arg Arg Arg Glu Gly Gly Gly Tyr Tyr Val Ala Trp Tyr Phe Asp Arg
 1 5 10 15

Arg Arg

<210> 27
 <211> 18
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 <223> Description of Artificial Sequence:antibody 198/A1
 derived mutant peptide A1/3-8 Alanine scan W-9-A-9

<400> 27
 Arg Arg Arg Glu Gly Gly Gly Tyr Tyr Val Asn Ala Tyr Phe Asp Arg
 1 5 10 15

Arg Arg

<210> 28
 <211> 18
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<220>
 <223> Description of Artificial Sequence:antibody 198/A1
 derived mutant peptide A1/3-9 Alanine scan
 Y-10-A-10

<400> 28
 Arg Arg Arg Glu Gly Gly Gly Tyr Tyr Val Asn Trp Ala Phe Asp Arg
 1 5 10 15

Arg Arg

<210> 29
 <211> 18
 <212> PRT
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<220>
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 derived mutant peptide A1/3-10 Alanine scan
 F-11-A-11

<400> 29

Arg Arg Arg Glu Gly Gly Gly Tyr Tyr Val Asn Trp Tyr Ala Asp Arg
 1 5 10 15

Arg Arg

<210> 30

<211> 18

<212> PRT

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<223> Description of Artificial Sequence:antibody 198/A1
 derived mutant peptide A1/3-11 Alanine scan
 D-12-A-12

<400> 30

Arg Arg Arg Glu Gly Gly Gly Tyr Tyr Val Asn Trp Tyr Phe Ala Arg
 1 5 10 15

Arg Arg

<210> 31

<211> 18

<212> PRT

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<223> Description of Artificial Sequence:antibody 198/A1
 derived mutant peptide A1/3-12srmb scrambled
 version

<400> 31

Arg Arg Arg Tyr Val Tyr Asn Gly Trp Gly Tyr Phe Glu Gly Ala Arg
 1 5 10 15

Arg Arg

<210> 32

<211> 18

<212> PRT

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 derived mutant peptide A1/3-22 Glutamic acid scan
 G-2-E-2

<400> 32

Arg Arg Arg Glu Glu Gly Gly Tyr Tyr Val Asn Trp Tyr Phe Asp Arg
 1 5 10 15

Arg Arg

<210> 33
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 derived mutant peptide A1/3-23 Glutamic acid scan
 G-3-E-3

<400> 33
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 1 5 10 15

Arg Arg

<210> 34
 <211> 18
 <212> PRT
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 derived mutant peptide A1/3-24 Glutamic acid scan
 G-4-E-4

<400> 34
 Arg Arg Arg Glu Gly Gly Glu Tyr Tyr Val Asn Trp Tyr Phe Asp Arg
 1 5 10 15

Arg Arg

<210> 35
 <211> 18
 <212> PRT
 <213> Artificial Sequence

<220>
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 derived mutant peptide A1/3-26 Glutamic acid scan
 Y-5-E-5

<400> 35
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 1 5 10 15

Arg Arg

<210> 36
 <211> 18
 <212> PRT
 <213> Artificial Sequence

<220>
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 derived mutant peptide A1/3-27 Glutamic acid scan
 Y-6-E-6

<400> 36

Arg Arg Arg Glu Gly Gly Gly Tyr Glu Val Asn Trp Tyr Phe Asp Arg
 1 5 10 15

Arg Arg

<210> 37

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:antibody 198/A1
 derived mutant peptide A1/3-28 Glutamic acid scan
 V-7-E-7

<400> 37

Arg Arg Arg Glu Gly Gly Gly Tyr Tyr Glu Asn Trp Tyr Phe Asp Arg
 1 5 10 15

Arg Arg

<210> 38

<211> 18

<212> PRT

<213> Artificial Sequence

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 derived mutant peptide A1/3-29 Glutamic acid scan
 N-8-E-8

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Arg Arg Arg Glu Gly Gly Gly Tyr Tyr Val Glu Trp Tyr Phe Asp Arg
 1 5 10 15

Arg Arg

<210> 39

<211> 18

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence:antibody 198/A1
 derived mutant peptide A1/3-30 Glutamic acid scan
 W-9-E-9

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Arg Arg Arg Glu Gly Gly Gly Tyr Tyr Val Glu Trp Tyr Phe Asp Arg
 1 5 10 15

Arg Arg

<210> 40
 <211> 18
 <212> PRT
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 derived mutant peptide A1/3-31 Glutamic acid scan
 Y-10-E-10

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 Arg Arg Arg Glu Gly Gly Gly Tyr Tyr Val Asn Trp Glu Phe Asp Arg
 1 5 10 15

Arg Arg

<210> 41
 <211> 18
 <212> PRT
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 derived mutant peptide A1/3-32 Glutamic acid scan
 F-11-E-11

<400> 41
 Arg Arg Arg Glu Gly Gly Gly Tyr Tyr Val Asn Trp Tyr Glu Asp Arg
 1 5 10 15

Arg Arg

<210> 42
 <211> 18
 <212> PRT
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 derived mutant peptide A1/3-33 Glutamic acid scan
 D12-E-12

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 1 5 10 15

Arg Arg

<210> 43
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 derived mutant peptide A1/3-34srmb scrambled
 version

<400> 43
 Arg Arg Arg Gly Glu Tyr Gly Glu Tyr Trp Asn Gly Asp Phe Tyr Arg
 1 5 10 15

Arg Arg

<210> 44
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<210> 45
 <211> 14
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 derived mutated peptide B1/4

<400> 45
 Arg Glu Gly Gly Gly Phe Thr Val Asn Trp Tyr Phe Asp Arg
 1 5 10

<210> 46
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 derived mutated peptide B1/5 scrambled version

<400> 46
 Phe Gly Val Gly Tyr Arg Gly Glu Thr Arg Asn Phe Asp Trp
 1 5 10

<210> 47
 <211> 18
 <212> PRT
 <213> Artificial Sequence

<220>
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 derived mutated peptide B1/6

<400> 47
 Glu Glu Glu Glu Gly Gly Gly Phe Thr Val Asn Trp Tyr Phe Asp Glu
 1 5 10 15

Glu Glu

<210> 48
 <211> 18
 <212> PRT
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<220>

<223> Description of Artificial Sequence:antibody 198/B1
derived mutated peptide B1/7

<400> 48

Arg Arg Arg Glu Gly Gly Gly Phe Thr Val Asn Trp Tyr Phe Asp Arg
1 5 10 15

Arg Arg

<210> 49

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:antibody 198/B1
derived mutated peptide B1/7scr3 scrambled version

<400> 49

Arg Arg Arg Phe Gly Val Gly Tyr Gly Glu Thr Asn Phe Asp Trp Arg
1 5 10 15

Arg Arg

<210> 50

<211> 57

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:mouse V-H back
primer VH1BACK-SfiI

<400> 50

catgccatga ctgcgggccc agccggccat ggccsaggtg marctgcags agtcwgg 57

<210> 51

<211> 56

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:mouse V-H back
primer VH1BACKSfi

<400> 51

gtcctcgcaa ctgcgggccc gccggccatg gccgaggtgc agcttcagga gtcagg 56

<210> 52

<211> 56

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:mouse V-H back
primer VH2BACKSfi

<400> 52
 gtccctcgcaa ctgcggccca gccggccatg gccgatgtgc agcttcagga gtcrgg 56

<210> 53
 <211> 56
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:mouse V-H back
 primer VH3BACKSfi

<400> 53
 gtccctcgcaa ctgcggccca gccggccatg gccaggtgc agctgaagsa gtcagg 56

<210> 54
 <211> 56
 <212> DNA
 <213> Artificial Sequence

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 <223> Description of Artificial Sequence:mouse V-H back
 primer VH4/6BACKSfi

<400> 54
 gtccctcgcaa ctgcggccca gccggccatg gccgaggtgc agctgcarca rtctgg 56

<210> 55
 <211> 56
 <212> DNA
 <213> Artificial Sequence

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 <223> Description of Artificial Sequence:mouse V-H back
 primer VH5/9BACKSfi

<400> 55
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<210> 56
 <211> 56
 <212> DNA
 <213> Artificial Sequence

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 <223> Description of Artificial Sequence:mouse V-H back
 primer VH7BACKSfi

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<210> 57
 <211> 56
 <212> DNA
 <213> Artificial Sequence

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<223> Description of Artificial Sequence:mouse V-H back
primer VH8BACKSfi

<400> 57

gtcctcgcaa ctgcggccca gccggccatg gccgaggttc agcttcagca gtctgg 56

<210> 58

<211> 56

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:mouse V-H back
primer VH10BACKSfi

<400> 58

gtcctcgcaa ctgcggccca gccggccatg gccgaagtgc agctgktgga gwctgg 56

<210> 59

<211> 56

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:mouse V-H back
primer VH11BACKSfi

<400> 59

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<210> 60

<211> 68

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:mouse J-H
forward primer VH1FOR2LiAsc

<400> 60

accgccagag gcgcgcccac ctgaaccgcc tccacctgag gagacggtga ccgtgggtccc 60
ttggcccc 68

<210> 61

<211> 60

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:mouse J-H
forward primer JH1FORLiAsc

<400> 61

accgccagag gcgcgcccac ctgaaccgcc tccacctgag gagacggtga ccgtgggtccc 60

<210> 62
<211> 60
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<223> Description of Artificial Sequence:mouse J-H
forward primer JH2FORLiAsc

<400> 62
accgccagag gcgcgcccac ctgaaccgcc tccacctgag gagactgtga gagtgggtgcc 60

<210> 63
<211> 60
<212> DNA
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<223> Description of Artificial Sequence:mouse J-H
forward primer JH3FORLiAsc

<400> 63
accgccagag gcgcgcccac ctgaaccgcc tccacctgca gagacagtga ccagagtccc 60

<210> 64
<211> 60
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence:mouse J-H
forward primer JH4FORLiAsc

<400> 64
accgccagag gcgcgcccac ctgaaccgcc tccacctgag gagacggtga ctgaggttcc 60

<210> 65
<211> 60
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence:mouse V-kappa
back primer VK2BACK-LiAscI

<400> 65
ggttcagatg ggcgcgctc tggcggtggc ggatcggaca ttgagctcac ccagtctcca 60

<210> 66
<211> 59
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence:mouse V-kappa
back primer VK1BACKLi Asc

<400> 66
ggttcagatg ggcgcgcctc tggcgggtggc ggatcggaca ttgtgatgwc acagtctcc 59

<210> 67
<211> 59
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence:mouse V-kappa
back primer VK2BACKLi Asc

<400> 67
ggttcagatg ggcgcgcctc tggcgggtggc ggatcggatg tktgatgac ccaaactcc 59

<210> 68
<211> 59
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<223> Description of Artificial Sequence:mouse V-kappa
back primer VK3BACKLi Asc

<400> 68
ggttcagatg ggcgcgcctc tggcgggtggc ggatcggata ttgtgatrac bcaggcwgc 59

<210> 69
<211> 59
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence:mouse V-kappa
back primer VK4BACKLi Asc

<400> 69
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<210> 70
<211> 59
<212> DNA
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<223> Description of Artificial Sequence:mouse V-kappa
back primer VK5BACKLi Asc

<400> 70
ggttcagatg ggcgcgcctc tggcgggtggc ggatcgsaaa wtgtkctcac ccagtctcc 59

<210> 71
<211> 59
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:mouse V-kappa
back primer VK6BACKLi Asc

<400> 71

ggttcagatg ggcgcgcctc tggcgggtggc ggatcggaya tyvwgatgac mcagwtcc 59

<210> 72

<211> 59

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:mouse V-kappa
back primer VK7BACKLi Asc

<400> 72

ggttcagatg ggcgcgcctc tggcgggtggc ggatcgcaaa ttgttctcac ccagtctcc 59

<210> 73

<211> 59

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:mouse V-kappa
back primer VK8BACKLi Asc

<400> 73

ggttcagatg ggcgcgcctc tggcgggtggc ggatcgatcat tattgcaggt gcttggtgg 59

<210> 74

<211> 42

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:mouse J-kappa
forward primer JK1NOT10

<400> 74

gagtcattct gcggccgccc gtttgatttc cagcttggtg cc 42

<210> 75

<211> 42

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:mouse J-kappa
forward primer JK2NOT10

<400> 75

gagtcattct gcggccgccc gttttatttc cagcttggtc cc 42

<210> 76
 <211> 42
 <212> DNA
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<220>
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 forward primer JK3NOT10

<400> 76
 gagtcattct ggggccgccc gttttatttc cagtctgggc cc 42

<210> 77
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<220>
 <223> Description of Artificial Sequence:mouse J-kappa
 forward primer JK4NOT10

<400> 77
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<210> 78
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 forward primer JK5NOT10

<400> 78
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 <223> Description of Artificial Sequence:oligonucleotide
 mychis6-co

<400> 79
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 ccatacctaa taag 74

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 <223> Description of Artificial Sequence:oligonucleotide
 mycchis-ic

<400> 80

aattctttatt agtgatgggtg atgggtgatgt gccgccccat tcagatcctc ttctgagatg 60
 agtttttgggt ctgc 74

<210> 81

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<223> Description of Artificial Sequence:scFv from
 hybridoma cell line 193/AD3

<400> 81

gaggtgaagc tgggtggagtc tggacctgag ctgaagaagc ctggagagac agtcaagatc 60
 tcttgcaagg cttctgggta tatcttcaca aactatggaa tgaactgggt gaagcaggct 120
 ccaggaaagg gtttaaagtg gatgggctgg ataaacacct acactggaga gccaacatat 180
 gctgatgact tcaagggacg gtttgccctc tctttggaaa cctctgccag cactgcctat 240
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 aactccccta aggggtttgc ttactggggc caagggactc tggtcactgt ctctgcagg 360
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 tctcccaaat tctgcttgt atcagcagga gacagggtta ccataacctg caaggccagt 480
 cagagtgtga gtaatgatgt agcttggtac caacagaagc cggggcagtc tcctaaacta 540
 ctgatgtact atgcattcaa tcgctacact ggagtcctg atcgcttcac tggcagtggg 600
 tatgggacgg atttcacttt caccatcagc actgtgcagg ctgaagacct ggcagtttat 660
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 aaacgg 726

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<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:scFv from
 hybridoma cell line 193/AD3

<400> 82

Glu Val Lys Leu Val Glu Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
 1 5 10 15
 Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ile Phe Thr Asn Tyr
 20 25 30
 Gly Met Asn Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Lys Trp Met
 35 40 45
 Gly Trp Ile Asn Thr Tyr Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60
 Lys Gly Arg Phe Ala Phe Ser Leu Glu Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80
 Leu Gln Ile Asn Asn Leu Lys Asn Glu Asp Thr Ala Thr Tyr Phe Cys
 85 90 95
 Ala Leu Tyr Gly Asn Ser Pro Lys Gly Phe Ala Tyr Trp Gly Gln Gly
 100 105 110

Thr Leu Val Thr Val Ser Ala Gly Gly Gly Gly Ser Gly Gly Arg Ala
 115 120 125
 Ser Gly Gly Gly Gly Ser Asp Ile Gln Met Thr Gln Ser Pro Lys Phe
 130 135 140
 Leu Leu Val Ser Ala Gly Asp Arg Val Thr Ile Thr Cys Lys Ala Ser
 145 150 155 160
 Gln Ser Val Ser Asn Asp Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln
 165 170 175
 Ser Pro Lys Leu Leu Met Tyr Tyr Ala Ser Asn Arg Tyr Thr Gly Val
 180 185 190
 Pro Asp Arg Phe Thr Gly Ser Gly Tyr Gly Thr Asp Phe Thr Phe Thr
 195 200 205
 Ile Ser Thr Val Gln Ala Glu Asp Leu Ala Val Tyr Phe Cys Gln Gln
 210 215 220
 Asp Tyr Gly Ser Pro Pro Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile
 225 230 235 240

Lys Arg

<210> 83

<211> 747

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:scFv from
hybridoma cell line 193/K2

<400> 83

gaagtgcagc tgggtggagtc tggggggaggc ctagtgaagc ctggagggtc cctgaaactc 60
 tcctgtgcag cctctggatt cactttcagt acctatacca tgtcttgggt tcgccagact 120
 ccggagaaga ggctggagtg ggctcgcaacc attagtagtg gtggtagtta cacctactat 180
 ccagacagtg tgaggggccc attcaccatc tccagagaca atgccaaaga caccctgtac 240
 ctgcaaatga gcagtctgaa gtctgaggac acagccatgt attactgtac aagagatggg 300
 ggacacgggt acggtagtag ctttgactac tggggccaag gcaccactct cacagtctcc 360
 tcaggtggag gcggttcagg tgggcgcgcc tctggcgggt gcggatcgca aattgtgctc 420
 acccagtctc cactctccct gcctgtcagt cttggagatc aagcctccat ctcttgacaga 480
 tctagtcaga gcattgtaca tagtaatgga aacacctatt tagaatggta cctgcagaaa 540
 ccaggccagt ctccaaagct cctgatctac aaagtttcca accgattttc tggggtccca 600
 gacaaattca gtggcagtg atcagggaca gatttcacac tcaagatcag cagagtggag 660
 gctgaggatc tgggagttta ttactgctt caaggttcac atgttccgtg gacgttcggg 720
 ggaggcacca agctggaaat caaacgg 747

<210> 84

<211> 249

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:scFv from
hybridoma cell line 193/K2

<400> 84

Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
 1 5 10 15
 Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Thr Tyr
 20 25 30
 Thr Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val
 35 40 45
 Ala Thr Ile Ser Ser Gly Gly Ser Tyr Thr Tyr Tyr Pro Asp Ser Val
 50 55 60
 Arg Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Met Tyr Tyr Cys
 85 90 95
 Thr Arg Asp Gly Gly His Gly Tyr Gly Ser Ser Phe Asp Tyr Trp Gly
 100 105 110
 Gln Gly Thr Thr Leu Thr Val Ser Ser Gly Gly Gly Gly Ser Gly Gly
 115 120 125
 Arg Ala Ser Gly Gly Gly Gly Ser Gln Ile Val Leu Thr Gln Ser Pro
 130 135 140
 Leu Ser Leu Pro Val Ser Leu Gly Asp Gln Ala Ser Ile Ser Cys Arg
 145 150 155 160
 Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Glu Trp
 165 170 175
 Tyr Leu Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys Val
 180 185 190
 Ser Asn Arg Phe Ser Gly Val Pro Asp Lys Phe Ser Gly Ser Gly Ser
 195 200 205
 Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu
 210 215 220
 Gly Val Tyr Tyr Cys Phe Gln Gly Ser His Val Pro Trp Thr Phe Gly
 225 230 235 240
 Gly Gly Thr Lys Leu Glu Ile Lys Arg
 245

<210> 85

<211> 747

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: scFv from
 hybridoma cell line 198/AB2 (subclone of 198/B1)

<400> 85

gaggtgcagc ttcaggagtc aggggggaggc ttagtgaagc ctggagggtc cctgaaactc 60

```

tctctgtgcag cctctggatt cactttcagt agctatacca tgtcttgggt tcgccagact 120
ccggagaaga ggctggagtg ggtcgcaacc attagtagtg gtggtagttc cacctactat 180
ccagacagtg tgaagggccg attcaccatc tccagagaca atgccaagaa caccctgtac 240
ctgcaaatga gcagtctgag gtctgaggac acagccatgt attactgtac aagagagggg 300
ggtggtttca cgtcaactg gtacttcgat gtctggggcg cagggactct ggtcactgtc 360
tctgcaggtg gaggcggttc aggtgggcgc gcctctggcg gtggcggatc ggaaaatgtg 420
ctcaccagtg ctccagcttc ttggctgtg tctctagggc agagggccac catatcctgc 480
agagccagtg aaagtgttga tagttatggc tataatttta tgcactggta tcagcagata 540
ccaggacagc caccctaaact cctcatctat cgtgcattca acctagagtc tgggatccct 600
gccaggttca gtggcagtg gtctaggaca gacttcaccc tcaccattaa tctgtggag 660
gctgatgatg ttgcaacctt ttactgtcag caaagtaatg aggatccgct cacgttcggt 720
actgggacca gactggaaat aaaacgg 747

```

<210> 86

<211> 249

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: scFv from
hybridoma cell line 198/AB2 (subclone of 198/B1)

<400> 86

```

Glu Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
 1              5              10              15

```

```

Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
              20              25              30

```

```

Thr Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val
      35              40              45

```

```

Ala Thr Ile Ser Ser Gly Gly Ser Ser Thr Tyr Tyr Pro Asp Ser Val
      50              55              60

```

```

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
      65              70              75              80

```

```

Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys
              85              90              95

```

```

Thr Arg Glu Gly Gly Gly Phe Thr Val Asn Trp Tyr Phe Asp Val Trp
      100              105              110

```

```

Gly Ala Gly Thr Leu Val Thr Val Ser Ala Gly Gly Gly Gly Ser Gly
      115              120              125

```

```

Gly Arg Ala Ser Gly Gly Gly Gly Ser Glu Asn Val Leu Thr Gln Ser
      130              135              140

```

```

Pro Ala Ser Leu Ala Val Ser Leu Gly Gln Arg Ala Thr Ile Ser Cys
      145              150              155              160

```

```

Arg Ala Ser Glu Ser Val Asp Ser Tyr Gly Tyr Asn Phe Met His Trp
              165              170              175

```

```

Tyr Gln Gln Ile Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Arg Ala
      180              185              190

```

Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser
 195 200 205

Arg Thr Asp Phe Thr Leu Thr Ile Asn Pro Val Glu Ala Asp Asp Val
 210 215 220

Ala Thr Tyr Tyr Cys Gln Gln Ser Asn Glu Asp Pro Leu Thr Phe Gly
 225 230 235 240

Thr Gly Thr Arg Leu Glu Ile Lys Arg
 245

<210> 87
 <211> 747
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:scFv derived
 from hybridoma cell line 198/A1

<220>
 <221> modified_base
 <222> (1)..(747)
 <223> n = g, a, c or t

<400> 87
 gaggtgcagc ttcaggagtc aggggggaggc ttagtgaagc ctggagggtc cctgaaactc 60
 tcctgtgcag cctctggatt catttttagt agttatacca tgtcttgggt tcgccagact 120
 ccggagaaga ggctggagtg ggtcgcaacc attagtagtg gtggtagttc cacctactat 180
 ccagacagtg tgaagggccg attcaccatc tccagagaca atgccaagaa caccctgtac 240
 ctgcaaata gacgtctgaa gtctgaggac acagccatgt atcactgtac aagagagggg 300
 ggtggttatt acgtcaactg gtacttcgat gtctggggcg caggcaccac tctcacagtc 360
 tcctcaggtg gaggcggttc aggtgggcgc gcctctggcg gtggcggatc ggacattgag 420
 ctacncagtc ctccagcttc tttggctgtg tctctagggc agagggccac catatcctgc 480
 agagccagtg aaagtgttga tagttatggc aagagtttta tgcactggta ccagcagaaa 540
 ccagggcagc cacccaaact cctcatctat cgtgcatcca acctagaatc tgggatccct 600
 gccaggttca gtggcagtg gtctaggaca gacttcaccc tcaccattaa tcctgtggag 660
 gctgatgatg ttgcnaccta ttactgtcag caaagtaatg aggatcccct cacgttcggt 720
 gctgggacca gactggaaat aaaacgg 747

<210> 88
 <211> 249
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:scFv derived
 from hybridoma cell line 198/A1

<400> 88
 Glu Val Gln Leu Gln Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
 1 5 10 15
 Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Ile Phe Ser Ser Tyr
 20 25 30
 Thr Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val
 35 40 45

Ala Thr Ile Ser Ser Gly Gly Ser Ser Thr Tyr Tyr Pro Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Met Tyr His Cys
85 90 95

Thr Arg Glu Gly Gly Gly Tyr Tyr Val Asn Trp Tyr Phe Asp Val Trp
100 105 110

Gly Ala Gly Thr Thr Leu Thr Val Ser Ser Gly Gly Gly Gly Ser Gly
115 120 125

Gly Arg Ala Ser Gly Gly Gly Gly Ser Asp Ile Glu Leu Thr Gln Ser
130 135 140

Pro Ala Ser Leu Ala Val Ser Leu Gly Gln Arg Ala Thr Ile Ser Cys
145 150 155 160

Arg Ala Ser Glu Ser Val Asp Ser Tyr Gly Lys Ser Phe Met His Trp
165 170 175

Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Arg Ala
180 185 190

Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg Phe Ser Gly Ser Gly Ser
195 200 205

Arg Thr Asp Phe Thr Leu Thr Ile Asn Pro Val Glu Ala Asp Asp Val
210 215 220

Ala Thr Tyr Tyr Cys Gln Gln Ser Asn Glu Asp Pro Leu Thr Phe Gly
225 230 235 240

Ala Gly Thr Arg Leu Glu Ile Lys Arg
245

<210> 89

<211> 2199

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:198A2
scFv-alkaline phosphatase fusion protein (ORF of
expression vector pDAP2-198AB2#100)

<220>

<221> modified_base

<222> (228)

<223> n = g, a, c or t

<400> 89

atgaaatacc tattgcctac ggcagccgct ggattgttat tactcgcggc ccagccggcc 60
atggcggagg tgaagctggt ggagtctggg ggaggcttag tgaagcctgg agggtccttg 120
aaactctcct gtgcagcttc tggattcact ttcagtagct ataccatgtc ttgggttcgc 180
cagactccgg agaagaggct ggagtgggtc gcaaccatta gtagtggnng tagttccacc 240
tactatccag acagtgtgaa gggccgattc accatctcca gagacaatgc caagaacacc 300

```

ctgtacctgc aaatgagcag tctgaggtct gaggacacag ccatgtatta ctgtacaaga 360
gaggggggtg gtttcaccgt caactggtac ttcgatgtct ggggcgcagg aacctcagtc 420
accgtctcct caggtggagg cgggttcaggt ggggcgcgct ctggcgggtg cggtatcggac 480
attgtgctga cacagtctcc agcttctttg gctgtgtctc tagggcagag ggccaccata 540
tctgcagag ccagtgaag tggtgatagt tatggctata attttatgca ctggtatcag 600
cagataccag gacagccacc caaactcttc atctatcgtg catccaacct agagtctggg 660
atccctgcc a ggttcagtg cagtgggtct aggacagact tcacctcac cattaatcct 720
gtggaggctg atgatgttgc aacctattac tgtcagcaaa gtaatgagga tccgctcacg 780
ttcggtagtg ggaccagact ggaaataaaa cgggcggccg cagcccgggc accagaaatg 840
cctgttcttg aaaaccgggc tgctcagggc gatattactg cacccgccgg tgctcgccgt 900
ttaacgggtg atcagactgc cgctctgcgt gattctctta gcgataaacc tgcaaaaaat 960
attattttgc tgattggcga tgggatgggg gactcggaaa ttactgccgc acgtaattat 1020
gccgaagggt cgggcgggct ttttaaagg atagatgcct taccgcttac cgggcaatac 1080
actcactatg cgctgaataa aaaaaccggc aaaccggact acgtcaccga ctcggtctga 1140
tcagcaaccg cctggtcaac cgggtgtcaa acctataacg gcgcgctggg cgtcgatatt 1200
cacgaaaaag atcacccaac gattctggaa atggcaaaag ccgcaggctt ggcgaccggg 1260
aacgtttcta ccgcagagtt gcaggatgcc acgcccgtg cgctgggtgg acatgtgacc 1320
tcgcgcaaat gctacggtcc gagcgcgacc agtgaaaaat gtccgggtaa cgctctggaa 1380
aaaggcggaa aaggatcgat taccgaacag ctgcttaacg ctcggtccga cgttacgctt 1440
ggcggcggcg caaaaacctt tgctgaaacg gcaaccgtg gtgaatggca gggaaaaaac 1500
ctgcgtgaac aggcacaggc gcgtggttat cagttggtga gcgatgctgc ctactgaat 1560
tcggtgacgg aagcgaatca gcaaaaacc ctgcttgggc tgtttgctga cggcaatatg 1620
ccagtgcgct ggctaggacc gaaagcaacg taccatggca atatcgataa gcccgagtc 1680
acctgtacgc caaatccgca acgtaatgac agtgtaacaa ccctggcgca gatgaccgac 1740
aaagccattg aattgttgag taaaaatgag aaaggctttt tctgcaagt tgaagggtgc 1800
tcaatcgata aacaggatca tgctgcgaat ccttgtgggc aaattggcga gacggtcgat 1860
ctcgatgaag ccgtacaacg ggcgctggaa ttcgctaaaa aggagggtaa cacgctggtc 1920
atagtcaccg ctgatcacgc ccacgccagc cagattgttg cgccggatac caaagctccg 1980
ggcctcacc aggcgctaaa taccaaagat ggcgcagtga tggtgatgag ttacgggaac 2040
tccgaagagg attcacaaga acataccggc agtcagttgc gtattgcggc gtatggccc 2100
catgccgcca atgttggtg actgaccgac cagaccgatc tcttctacac catgaaagcc 2160
gctctggggg atatcgaca ccatcaccat caccattaa 2199

```

<210> 90

<211> 732

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:198A2
scFv-alkaline phosphatase fusion protein (ORF of
expression vector pDAP2-198AB2#100)

<400> 90

```

Met Lys Tyr Leu Leu Pro Thr Ala Ala Ala Gly Leu Leu Leu Ala
  1             5             10             15

Ala Gln Pro Ala Met Ala Glu Val Lys Leu Val Glu Ser Gly Gly Gly
      20             25             30

Leu Val Lys Pro Gly Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly
      35             40             45

Phe Thr Phe Ser Ser Tyr Thr Met Ser Trp Val Arg Gln Thr Pro Glu
      50             55             60

Lys Arg Leu Glu Trp Val Ala Thr Ile Ser Ser Gly Gly Ser Ser Thr
      65             70             75             80

```

Tyr	Tyr	Pro	Asp	Ser 85	Val	Lys	Gly	Arg	Phe 90	Thr	Ile	Ser	Arg	Asp 95	Asn
Ala	Lys	Asn	Thr 100	Leu	Tyr	Leu	Gln	Met 105	Ser	Ser	Leu	Arg	Ser 110	Glu	Asp
Thr	Ala	Met 115	Tyr	Tyr	Cys	Thr	Arg 120	Glu	Gly	Gly	Gly	Phe 125	Thr	Val	Asn
Trp	Tyr 130	Phe	Asp	Val	Trp	Gly 135	Ala	Gly	Thr	Ser	Val 140	Thr	Val	Ser	Ser
Gly 145	Gly	Gly	Gly	Ser	Gly 150	Gly	Arg	Ala	Ser	Gly 155	Gly	Gly	Gly	Ser	Asp
Ile	Val	Leu	Thr	Gln 165	Ser	Pro	Ala	Ser	Leu 170	Ala	Val	Ser	Leu	Gly 175	Gln
Arg	Ala	Thr 180	Ile	Ser	Cys	Arg	Ala 185	Ser	Glu	Ser	Val	Asp 190	Ser	Tyr	Gly
Tyr	Asn	Phe 195	Met	His	Trp	Tyr	Gln 200	Gln	Ile	Pro	Gly	Gln 205	Pro	Pro	Lys
Leu	Leu 210	Ile	Tyr	Arg	Ala	Ser 215	Asn	Leu	Glu	Ser	Gly 220	Ile	Pro	Ala	Arg
Phe 225	Ser	Gly	Ser	Gly 230	Ser	Arg	Thr	Asp	Phe 235	Thr	Leu	Thr	Ile	Asn	Pro 240
Val	Glu	Ala	Asp	Asp 245	Val	Ala	Thr	Tyr	Tyr 250	Cys	Gln	Gln	Ser	Asn 255	Glu
Asp	Pro	Leu	Thr 260	Phe	Gly	Thr	Gly 265	Thr	Arg	Leu	Glu	Ile	Lys 270	Arg	Ala
Ala	Ala 275	Ala	Arg	Ala	Pro	Glu	Met 280	Pro	Val	Leu	Glu	Asn 285	Arg	Ala	Ala
Gln 290	Gly	Asp	Ile	Thr	Ala	Pro 295	Gly	Gly	Ala	Arg	Arg 300	Leu	Thr	Gly	Asp
Gln 305	Thr	Ala	Ala	Leu	Arg 310	Asp	Ser	Leu	Ser	Asp 315	Lys	Pro	Ala	Lys	Asn
Ile	Ile	Leu	Leu	Ile 325	Gly	Asp	Gly	Met	Gly 330	Asp	Ser	Glu	Ile	Thr 335	Ala
Ala	Arg	Asn 340	Tyr	Ala	Glu	Gly	Ala 345	Gly	Gly	Phe	Phe	Lys	Gly 350	Ile	Asp
Ala	Leu	Pro 355	Leu	Thr	Gly	Gln	Tyr 360	Thr	His	Tyr	Ala	Leu	Asn 365	Lys	Lys
Thr	Gly 370	Lys	Pro	Asp	Tyr	Val 375	Thr	Asp	Ser	Ala	Ala 380	Ser	Ala	Thr	Ala
Trp 385	Ser	Thr	Gly	Val	Lys 390	Thr	Tyr	Asn	Gly	Ala 395	Leu	Gly	Val	Asp	Ile 400

His Glu Lys Asp His Pro Thr Ile Leu Glu Met Ala Lys Ala Ala Gly
 405 410 415
 Leu Ala Thr Gly Asn Val Ser Thr Ala Glu Leu Gln Asp Ala Thr Pro
 420 425 430
 Ala Ala Leu Val Ala His Val Thr Ser Arg Lys Cys Tyr Gly Pro Ser
 435 440 445
 Ala Thr Ser Glu Lys Cys Pro Gly Asn Ala Leu Glu Lys Gly Gly Lys
 450 455 460
 Gly Ser Ile Thr Glu Gln Leu Leu Asn Ala Arg Ala Asp Val Thr Leu
 465 470 475 480
 Gly Gly Gly Ala Lys Thr Phe Ala Glu Thr Ala Thr Ala Gly Glu Trp
 485 490 495
 Gln Gly Lys Thr Leu Arg Glu Gln Ala Gln Ala Arg Gly Tyr Gln Leu
 500 505 510
 Val Ser Asp Ala Ala Ser Leu Asn Ser Val Thr Glu Ala Asn Gln Gln
 515 520 525
 Lys Pro Leu Leu Gly Leu Phe Ala Asp Gly Asn Met Pro Val Arg Trp
 530 535 540
 Leu Gly Pro Lys Ala Thr Tyr His Gly Asn Ile Asp Lys Pro Ala Val
 545 550 555 560
 Thr Cys Thr Pro Asn Pro Gln Arg Asn Asp Ser Val Pro Thr Leu Ala
 565 570 575
 Gln Met Thr Asp Lys Ala Ile Glu Leu Leu Ser Lys Asn Glu Lys Gly
 580 585 590
 Phe Phe Leu Gln Val Glu Gly Ala Ser Ile Asp Lys Gln Asp His Ala
 595 600 605
 Ala Asn Pro Cys Gly Gln Ile Gly Glu Thr Val Asp Leu Asp Glu Ala
 610 615 620
 Val Gln Arg Ala Leu Glu Phe Ala Lys Lys Glu Gly Asn Thr Leu Val
 625 630 635 640
 Ile Val Thr Ala Asp His Ala His Ala Ser Gln Ile Val Ala Pro Asp
 645 650 655
 Thr Lys Ala Pro Gly Leu Thr Gln Ala Leu Asn Thr Lys Asp Gly Ala
 660 665 670
 Val Met Val Met Ser Tyr Gly Asn Ser Glu Glu Asp Ser Gln Glu His
 675 680 685
 Thr Gly Ser Gln Leu Arg Ile Ala Ala Tyr Gly Pro His Ala Ala Asn
 690 695 700
 Val Val Gly Leu Thr Asp Gln Thr Asp Leu Phe Tyr Thr Met Lys Ala
 705 710 715 720

Ala Leu Gly Asp Ile Ala His His His His His His
725 730

<210> 91
<211> 978
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:plasmid
pZip-198AB2#102

<220>
<221> modified_base
<222> (1)..(978)
<223> n = g, a, c or t

<400> 91
atgaaatacc tattgcctac ggcagccgct ggattgttat tactcgcggc ccagccggcc 60
atggcggagg tgaagctggg ggagctctggg ggaggcttag tgaagcctgg agggctccctg 120
aaactctcct gtgcagcctc tggattcact ttcagtagct ataccatgtc ttgggttcgc 180
cagactccgg agaagaggct ggagtggggc gcaaccatta gtagtggnng tagttccacc 240
tactatccag acagtgtgaa gggccgattc accatctcca gagacaatgc caagaacacc 300
ctgtacctgc aaatgagcag tctgaggtct gaggacacag ccatgtatta ctgtacaaga 360
gaggggggtg gtttcaccgt caactggtac ttcgatgtct ggggcgcagg aacctcagtc 420
accgtctcct caggtggagg cgggttcaggg gggcgcgccct ctggcggtgg cggatcggac 480
attgtgtga cacagtntcc agcttctttg gctgtgtctc tagggcagag ggccaccata 540
tcntgcagag ccagtgaag tgttgatagt tatggctata attttatgca ctggtatcag 600
cagataccag gacagccacc caaactcctc atctatcgtg catccaacct agagtctggg 660
atccctgccg gggttcagtg cagtgggtct aggacagact tcaccctcac cattaatcct 720
gtggaggctg atgatgttgc aacctattac tgtcagcaaa gtaatgagga tccgctcacg 780
ttcggtagtg ggaccagact ggaaataaaa cgggcggccg caccgaagcc ttccactccg 840
cccgggtctt cccgtatgaa acagctggaa gacaaagtag aggagctcct tagcaagaac 900
taccatctag aaaacgaggt agctcgtctg aaaaagcttg ttggtgaacg tgggtggtcac 960
catcaccatc accattaa 978

<210> 92
<211> 325
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:plasmid
pZip-198AB2#102

<220>
<221> MOD_RES
<222> (166)
<223> Xaa = Cys, Tyr, Ser or Phe

<400> 92
Met Lys Tyr Leu Leu Pro Thr Ala Ala Ala Gly Leu Leu Leu Leu Ala
1 5 10 15
Ala Gln Pro Ala Met Ala Glu Val Lys Leu Val Glu Ser Gly Gly Gly
20 25 30
Leu Val Lys Pro Gly Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly
35 40 45

[illegible]

```
<210> 93
<211> 2190
<212> DNA
<213> Artificial Sequence
```

<220>

<223> Description of Artificial Sequence:mAB#8860
 scFv-alkaline phosphatase fusion protein (vector
 construct pDAP2-8860scFv#11)

<400> 93

```

atgaaatacc tattgcctac ggcagccgct ggattgttat tactcgcggc ccagccggcc 60
atggccgagg ttcagcttca gcagtctgga cctgagctgg tgaagcccgg ggccctcagt 120
aagatttctt gcaaagcttc tggctacgca ttcagtagct cttggatgaa ctgggtgaag 180
cagaggcctg gacagggctt tgagtggatt ggacggattt atcctggaaa tggagatact 240
aactacaatg ggaagttcaa gggcaaggcc aactgactg cagacaaatc ctccagcaca 300
gcctacatgc agctcagcag cctgacctct gtggactctg cggctctatt ctgtgcagat 360
ggtaacgtat attactatgc tatggactac tgggggtcaag gaacctcagt caccgtctcc 420
tcaggtggag gcggttcagg tgggcgcgcc tctggcggtg gcggatcgca aattgttctc 480
accagttctc ctgcttctct agctgtatct ctggggcaga gggccaccat ctcattgcagg 540
gccagcaaaa gtgtcagtag atctggctat agttatatgc actggtacca acagaaacca 600
ggacagccac ccaaactctt catctatctt gcacccaacc tagaatctgg ggtccctgcc 660
aggttcagtg gcagtgggtc tgggacagac ttcacctca acatccatcc tgtggaggag 720
aggatgctg caacctatta ctgtcagcac agtagggagc ttcctcggac gttcgggtgga 780
ggcaccaagc tggaaatcaa acgggcggcc gcagcccggg caccagaaat gcctgttctg 840
gaaaaccggg ctgctcaggg cgatattact gcacccggcg gtgctcgccg tttaacgggt 900
gatcagactg ccgctctgcg tgattctctt agcgataaac ctgcaaaaaa tattattttg 960
ctgattggcg atgggatggg ggactcggaa attactgccg cactgaatta tgccgaaggt 1020
gcgggcggct tttttaaagg tatagatgcc ttaccgctta ccgggcaata cactcactat 1080
gcgctgaata aaaaaaccgg caaaccggac tacgtcaccg actcggctgc atcagcaacc 1140
gcctggtcaa ccggtgtcaa aacctataac ggcgcgctgg gcgtcgatat tcacgaaaaa 1200
gatcacccaa cgattctgga aatggcaaaa gccgcaggtc tggcgaccgg taacgtttct 1260
accgcagagt tgcaggatgc cagcccgct gcgctggtgg cacatgtgac ctgcgcgcaa 1320
tgctacggtc cgagcgcgac cagtgaaaaa tgtccgggta acgctctgga aaaaggcgga 1380
aaaggatcga ttaccgaaca gctgcttaac gctcgtgccg acgttacgct tggcggcgcc 1440
gcaaaaacct ttgctgaaac ggcaaccgct ggtgaatggc agggaaaaac gctgctgtaa 1500
caggcacagg cgcgtgggta tcagttgggt agcgatgctg cctcactgaa ttcggtgacg 1560
gaagcgaatc agcaaaaacc cctgcttggc ctggttgctg acggcaatat gccagtgcgc 1620
tggctaggac cgaaagcaac gtaccatggc aatatcgata agcccgcagt cacctgtacg 1680
ccaaatccgc aacgtaatga cagtgtacca accctggcgc agatgaccga caaagccatt 1740
gaattgttga gtaaaaatga gaaaggcttt ttcctgcaag ttgaagggtc gtcaatcgat 1800
aaacaggatc atgctgcgaa tccttggtgg caaattggcg agacggtcga tctcgatgaa 1860
gccgtacaac gggcgctgga attcgctaaa aaggagggtg acacgctggt catagtcacc 1920
gctgatcacg cccacgccag ccagattggt gcgcgggata ccaaagctcc gggcctcacc 1980
caggcgctaa ataccaaaga tggcgcagtg atggtgatga gttacgggaa ctccgaagag 2040
gattcacaag aacataccgg cagtcagttg cgtattgcgg cgtatggccc gcatgccgcc 2100
aatgttggtg gactgaccga ccagaccgat ctcttctaca ccatgaaagc cgctctgggg 2160
gatatcgcac accatcacca tcaccattaa 2190

```

<210> 94

<211> 729

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:mAB#8860
 scFv-alkaline phosphatase fusion protein (vector
 construct pDAP2-8860scFv#11)

<400> 94

```

Met Lys Tyr Leu Leu Pro Thr Ala Ala Ala Gly Leu Leu Leu Ala
  1             5             10             15

Ala Gln Pro Ala Met Ala Glu Val Gln Leu Gln Gln Ser Gly Pro Glu
  20             25             30

```

Leu	Val	Lys	Pro	Gly	Ala	Ser	Val	Lys	Ile	Ser	Cys	Lys	Ala	Ser	Gly	35	40	45
Tyr	Ala	Phe	Ser	Ser	Ser	Trp	Met	Asn	Trp	Val	Lys	Gln	Arg	Pro	Gly	50	55	60
Gln	Gly	Leu	Glu	Trp	Ile	Gly	Arg	Ile	Tyr	Pro	Gly	Asn	Gly	Asp	Thr	65	70	75
Asn	Tyr	Asn	Gly	Lys	Phe	Lys	Gly	Lys	Ala	Thr	Leu	Thr	Ala	Asp	Lys	85	90	95
Ser	Ser	Ser	Thr	Ala	Tyr	Met	Gln	Leu	Ser	Ser	Leu	Thr	Ser	Val	Asp	100	105	110
Ser	Ala	Val	Tyr	Phe	Cys	Ala	Asp	Gly	Asn	Val	Tyr	Tyr	Tyr	Ala	Met	115	120	125
Asp	Tyr	Trp	Gly	Gln	Gly	Thr	Ser	Val	Thr	Val	Ser	Ser	Gly	Gly	Gly	130	135	140
Gly	Ser	Gly	Gly	Arg	Ala	Ser	Gly	Gly	Gly	Gly	Ser	Gln	Ile	Val	Leu	145	150	155
Thr	Gln	Ser	Pro	Ala	Ser	Leu	Ala	Val	Ser	Leu	Gly	Gln	Arg	Ala	Thr	165	170	175
Ile	Ser	Cys	Arg	Ala	Ser	Lys	Ser	Val	Ser	Thr	Ser	Gly	Tyr	Ser	Tyr	180	185	190
Met	His	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Gln	Pro	Pro	Lys	Leu	Leu	Ile	195	200	205
Tyr	Leu	Ala	Ser	Asn	Leu	Glu	Ser	Gly	Val	Pro	Ala	Arg	Phe	Ser	Gly	210	215	220
Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Asn	Ile	His	Pro	Val	Glu	Glu	225	230	235
Glu	Asp	Ala	Ala	Thr	Tyr	Tyr	Cys	Gln	His	Ser	Arg	Glu	Leu	Pro	Arg	245	250	255
Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Ile	Lys	Arg	Ala	Ala	Ala	Ala	260	265	270
Arg	Ala	Pro	Glu	Met	Pro	Val	Leu	Glu	Asn	Arg	Ala	Ala	Gln	Gly	Asp	275	280	285
Ile	Thr	Ala	Pro	Gly	Gly	Ala	Arg	Arg	Leu	Thr	Gly	Asp	Gln	Thr	Ala	290	295	300
Ala	Leu	Arg	Asp	Ser	Leu	Ser	Asp	Lys	Pro	Ala	Lys	Asn	Ile	Ile	Leu	305	310	315
Leu	Ile	Gly	Asp	Gly	Met	Gly	Asp	Ser	Glu	Ile	Thr	Ala	Ala	Arg	Asn	325	330	335
Tyr	Ala	Glu	Gly	Ala	Gly	Gly	Phe	Phe	Lys	Gly	Ile	Asp	Ala	Leu	Pro	340	345	350

Leu Thr Gly Gln Tyr Thr His Tyr Ala Leu Asn Lys Lys Thr Gly Lys
 355 360 365
 Pro Asp Tyr Val Thr Asp Ser Ala Ala Ser Ala Thr Ala Trp Ser Thr
 370 375 380
 Gly Val Lys Thr Tyr Asn Gly Ala Leu Gly Val Asp Ile His Glu Lys
 385 390 395 400
 Asp His Pro Thr Ile Leu Glu Met Ala Lys Ala Ala Gly Leu Ala Thr
 405 410 415
 Gly Asn Val Ser Thr Ala Glu Leu Gln Asp Ala Thr Pro Ala Ala Leu
 420 425 430
 Val Ala His Val Thr Ser Arg Lys Cys Tyr Gly Pro Ser Ala Thr Ser
 435 440 445
 Glu Lys Cys Pro Gly Asn Ala Leu Glu Lys Gly Gly Lys Gly Ser Ile
 450 455 460
 Thr Glu Gln Leu Leu Asn Ala Arg Ala Asp Val Thr Leu Gly Gly Gly
 465 470 475 480
 Ala Lys Thr Phe Ala Glu Thr Ala Thr Ala Gly Glu Trp Gln Gly Lys
 485 490 495
 Thr Leu Arg Glu Gln Ala Gln Ala Arg Gly Tyr Gln Leu Val Ser Asp
 500 505 510
 Ala Ala Ser Leu Asn Ser Val Thr Glu Ala Asn Gln Gln Lys Pro Leu
 515 520 525
 Leu Gly Leu Phe Ala Asp Gly Asn Met Pro Val Arg Trp Leu Gly Pro
 530 535 540
 Lys Ala Thr Tyr His Gly Asn Ile Asp Lys Pro Ala Val Thr Cys Thr
 545 550 555 560
 Pro Asn Pro Gln Arg Asn Asp Ser Val Pro Thr Leu Ala Gln Met Thr
 565 570 575
 Asp Lys Ala Ile Glu Leu Leu Ser Lys Asn Glu Lys Gly Phe Phe Leu
 580 585 590
 Gln Val Glu Gly Ala Ser Ile Asp Lys Gln Asp His Ala Ala Asn Pro
 595 600 605
 Cys Gly Gln Ile Gly Glu Thr Val Asp Leu Asp Glu Ala Val Gln Arg
 610 615 620
 Ala Leu Glu Phe Ala Lys Lys Glu Gly Asn Thr Leu Val Ile Val Thr
 625 630 635 640
 Ala Asp His Ala His Ala Ser Gln Ile Val Ala Pro Asp Thr Lys Ala
 645 650 655
 Pro Gly Leu Thr Gln Ala Leu Asn Thr Lys Asp Gly Ala Val Met Val
 660 665 670

Met Ser Tyr Gly Asn Ser Glu Glu Asp Ser Gln Glu His Thr Gly Ser
675 680 685

Gln Leu Arg Ile Ala Ala Tyr Gly Pro His Ala Ala Asn Val Val Gly
690 695 700

Leu Thr Asp Gln Thr Asp Leu Phe Tyr Thr Met Lys Ala Ala Leu Gly
705 710 715 720

Asp Ile Ala His His His His His His
725

<210> 95

<211> 969

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:mAB #8860
scFv-leucine zipper fusion protein (miniantibody
vector construct p8860-Zip#1.2)

<400> 95

```
atgaaatacc tattgcctac ggcagccgct ggattgttat tactcgcggc ccagccggcc 60
atggcggagg ttcagcttca gcagtctgga cctgagctgg tgaagcccgg ggccctcagt 120
aagatttcct gcaaagcttc tggctacgca ttcagtagct cttggatgaa ctgggtgaag 180
cagaggcctg gacagggtct tgagtggatt ggacggattt atcctggaaa tggagatact 240
aactacaatg ggaagttcaa gggcaaggcc acactgactg cagacaaatc ctccagcaca 300
gcctacatgc agctcagcag cctgacctct gtggactctg cgggtctatt ctgtgcagat 360
ggtaacgtat attactatgc tatggactac tggggctcaag gaacctcagt caccgtctcc 420
tcaggtggag gcggttcagg tgggcgcgcc tctggcgggt gcggatcgca aattgttctc 480
accagtcctc ctgcttcctt agctgtatct ctggggcaga gggccaccat ctcatgcagg 540
gccagcaaaa gtgtcagtac atctggctat agttatatgc actggtacca acagaaacca 600
ggacagccac ccaaactcct catctatctt gcatccaacc tagaatctgg ggtccctgcc 660
aggttcagtg gcagtgggtc tgggacagac ttcacctca acatccatcc tgtggaggag 720
gaggatgctg caacctatta ctgtcagcac agtagggagc ttctctggac gttcgggtga 780
ggcaccaagc tggaaatcaa acgggcggcc gcaccgaagc cttccactcc gcccggtctc 840
tcccgtatga aacagctgga agacaaagta gaggagctcc ttagcaagaa ctaccatcta 900
gaaaacgagg tagctcgtct gaaaaagctt gttggtgaac gtggtggtca ccatcaccat 960
caccattaa                                     969
```

<210> 96

<211> 322

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:mAB #8860
scFv-leucine zipper fusion protein (miniantibody
vector construct p8860-Zip#1.2)

<400> 96

Met Lys Tyr Leu Leu Pro Thr Ala Ala Ala Gly Leu Leu Leu Leu Ala
1 5 10 15

Ala Gln Pro Ala Met Ala Glu Val Gln Leu Gln Gln Ser Gly Pro Glu
20 25 30

[illegible]

```
<210> 97
<211> 270
<212> DNA
<213> Artificial Sequence
```

<220>

<223> Description of Artificial Sequence:part of plasmid
pMycHis6 differing from vector pCOCK

<400> 97

```
caggaaacag ctatgaccat gattacgcca agcttccatg aaaattctat ttcaaggaga 60
cagtcataat gaaataccta ttgcctacgg cagccgctgg attggtatta ctgcgggcc 120
agccggccat ggcccagggtg cagctgcagg cgcgcctgca ggtcgacctc gagatcaaac 180
ggcgggccgc agaacaaaaa ctcatctcag aagaggatct gaatggggcg gcacatcacc 240
atcaccatca ctaataagaa ttcactggcc 270
```

<210> 98

<211> 61

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:part of plasmid
pMycHis6 differing from vector pCOCK

<400> 98

```
Met Lys Tyr Leu Leu Pro Thr Ala Ala Ala Gly Leu Leu Leu Leu Ala
  1              5              10              15

Ala Gln Pro Ala Met Ala Gln Val Gln Leu Gln Ala Arg Leu Gln Val
              20              25              30

Asp Leu Glu Ile Lys Arg Ala Ala Ala Glu Gln Lys Leu Ile Ser Glu
      35              40              45

Glu Asp Leu Asn Gly Ala Ala His His His His His His
      50              55              60
```

<210> 99

<211> 888

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:198AB2 scFv
linked to c-myc-tag and His6 tag (ORF of
expression vector pMycHis6-198AB2#102)

<220>

<221> modified_base

<222> (228)

<223> n = g, a, c or t

<400> 99

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atgaaatacc tattgcctac ggcagccgct ggattgttat tactcgcggc ccagccggcc 60
atggccgagg tgaagctggg ggagctctggg ggaggcttag tgaagcctgg agggtccttg 120
aaactctcct gtgcagcctc tggattcact ttcagtagct ataccatgtc ttgggttcgc 180
cagactccgg agaagagggt ggagtggtgc gcaaccatta gtagtggnng tagttccacc 240
tactatccag acagtgtgaa gggccgattc accatctcca gagacaatgc caagaacacc 300
ctgtacctgc aaatgagcag tctgaggtct gaggacacag ccatgtatta ctgtacaaga 360
gaggggggtg gtttcaccgt caactggtac ttcgatgtct ggggcgcagg aacctcagtc 420
accgtctcct caggtggagg cggttcaggt gggcgcgcct ctggcggtgg cggatcggac 480
attgtgctga cacagtctcc agcttctttg gctgtgtctc tagggcagag ggccaccata 540
tcctgcagag ccagtgaaag tgttgatagt tatggctata attttatgca ctggtatcag 600
```

```

cagataccag gacagccacc caaactcctc atctatcgtg catccaacct agagtctggg 660
atccctgccg ggttcagtg cagtgggtct aggacagact tcaccctcac cattaatcct 720
gtggaggctg atgatgttgc aacctattac tgtcagcaaa gtaatgagga tccgctcacg 780
ttcggtagct ggaccagact ggaaataaaa cgggcggccg cagaacaaaa actcatctca 840
gaagaggatc tgaatggggc ggcacatcac catcaccatc actaataa 888

```

<210> 100

<211> 294

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:198AB2 scFv
linked to c-myc-tag and His6 tag (ORF of
expression vector pMycHis6-198AB2#102)

<400> 100

```

Met Lys Tyr Leu Leu Pro Thr Ala Ala Ala Gly Leu Leu Leu Leu Ala
  1              5              10              15

```

```

Ala Gln Pro Ala Met Ala Glu Val Lys Leu Val Glu Ser Gly Gly Gly
      20              25              30

```

```

Leu Val Lys Pro Gly Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly
      35              40              45

```

```

Phe Thr Phe Ser Ser Tyr Thr Met Ser Trp Val Arg Gln Thr Pro Glu
      50              55              60

```

```

Lys Arg Leu Glu Trp Val Ala Thr Ile Ser Ser Gly Gly Ser Ser Thr
      65              70              75              80

```

```

Tyr Tyr Pro Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
      85              90              95

```

```

Ala Lys Asn Thr Leu Tyr Leu Gln Met Ser Ser Leu Arg Ser Glu Asp
      100             105             110

```

```

Thr Ala Met Tyr Tyr Cys Thr Arg Glu Gly Gly Gly Phe Thr Val Asn
      115             120             125

```

```

Trp Tyr Phe Asp Val Trp Gly Ala Gly Thr Ser Val Thr Val Ser Ser
      130             135             140

```

```

Gly Gly Gly Gly Ser Gly Gly Arg Ala Ser Gly Gly Gly Gly Ser Asp
      145             150             155             160

```

```

Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly Gln
      165             170             175

```

```

Arg Ala Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Asp Ser Tyr Gly
      180             185             190

```

```

Tyr Asn Phe Met His Trp Tyr Gln Gln Ile Pro Gly Gln Pro Pro Lys
      195             200             205

```

```

Leu Leu Ile Tyr Arg Ala Ser Asn Leu Glu Ser Gly Ile Pro Ala Arg
      210             215             220

```

Phe Ser Gly Ser Gly Ser Arg Thr Asp Phe Thr Leu Thr Ile Asn Pro
225 230 235 240

Val Glu Ala Asp Asp Val Ala Thr Tyr Tyr Cys Gln Gln Ser Asn Glu
245 250 255

Asp Pro Leu Thr Phe Gly Thr Gly Thr Arg Leu Glu Ile Lys Arg Ala
260 265 270

Ala Ala Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Gly Ala Ala
275 280 285

His His His His His His
290

<210> 101

<211> 876

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:mAB #8860 scFv
linked to c-myc-tag and His6-tag designated
8860-M/H#4c (plasmid vector p8860-M/H#4c)

<400> 101

```
atgaaatacc tattgcctac ggcagccgct ggattgttat tactcgcggc ccagccggcc 60
atggccgagg ttcagcttca gcagtctgga cctgagctgg tgaagcccgg ggcctcagtg 120
aagatttcct gcaaagcttc tggctacgca ttcagtagct cttggatgaa ctgggtgaag 180
cagaggcctg gacaggggtc tgagtggatt ggacggattt atcctggaaa tggagatact 240
aactacaatg ggaagttcaa gggcaaggcc aactgactg cagacaaatc ctccagcaca 300
gcctacatgc agctcagcag cctgacctct gtggactctg cgggtctatt ctgtgcagat 360
ggtaacgtat attactatgc tatggactac tgggggtcaag gaacctcagt caccgtctcc 420
tcagggtggag gcggttcagg tgggcgcgcc tctggcggtg gcggatcgca aattgttctc 480
acccagtctc ctgcttccct agctgtatct ctggggcaga gggccaccat ctcatgcagg 540
gccagcaaaa gtgtcagtac atctggctat agttatatgc actggtacca acagaaacca 600
ggacagccac ccaaactcct catctatctt gcattccaacc tagaatctgg ggtccctgcc 660
aggttcagtg gcagtgggtc tgggacagac ttcacctca acatccatcc tgtggaggag 720
gaggatgctg caacctatta ctgtcagcac agtagggagc ttctcggac gttcggtgga 780
ggcaccaagc tggaaatcaa acgggcggcc gcagaacaaa aactcatctc agaagaggat 840
ctgaatgggg cggcacatca ccataccat cactaa 876
```

<210> 102

<211> 291

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:mAB #8860 scFv
linked to c-myc-tag and His6-tag designated
8860-M/H#4c (plasmid vector p8860-M/H#4c)

<400> 102

Met Lys Tyr Leu Leu Pro Thr Ala Ala Ala Gly Leu Leu Leu Ala
1 5 10 15

Ala Gln Pro Ala Met Ala Glu Val Gln Leu Gln Gln Ser Gly Pro Glu
20 25 30

Leu Val Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Ala Ser Gly
 35 40 45
 Tyr Ala Phe Ser Ser Ser Trp Met Asn Trp Val Lys Gln Arg Pro Gly
 50 55 60
 Gln Gly Leu Glu Trp Ile Gly Arg Ile Tyr Pro Gly Asn Gly Asp Thr
 65 70 75 80
 Asn Tyr Asn Gly Lys Phe Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys
 85 90 95
 Ser Ser Ser Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Val Asp
 100 105 110
 Ser Ala Val Tyr Phe Cys Ala Asp Gly Asn Val Tyr Tyr Tyr Ala Met
 115 120 125
 Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser Gly Gly Gly
 130 135 140
 Gly Ser Gly Gly Arg Ala Ser Gly Gly Gly Gly Ser Gln Ile Val Leu
 145 150 155 160
 Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly Gln Arg Ala Thr
 165 170 175
 Ile Ser Cys Arg Ala Ser Lys Ser Val Ser Thr Ser Gly Tyr Ser Tyr
 180 185 190
 Met His Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile
 195 200 205
 Tyr Leu Ala Ser Asn Leu Glu Ser Gly Val Pro Ala Arg Phe Ser Gly
 210 215 220
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Asn Ile His Pro Val Glu Glu
 225 230 235 240
 Glu Asp Ala Ala Thr Tyr Tyr Cys Gln His Ser Arg Glu Leu Pro Arg
 245 250 255
 Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg Ala Ala Ala Glu
 260 265 270
 Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Gly Ala Ala His His His
 275 280 285
 His His His
 290

<210> 103

<211> 74

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:annealed
 oligonucleotide

<400> 103
 ggccgcagaa caaaaactca tctcagaaga ggatctgaat ggggcggcac atcaccatca 60
 ccatactaa taag 74

<210> 104
 <211> 69
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:annealed
 oligonucleotide

<400> 104
 ttattagtga tggatgatggg gatgtgccgc cccattcaga tcctcttctg agatgagttt 60
 ttgttctgc 69

<210> 105
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:CDR3 peptide

<220>
 <221> MOD_RES
 <222> (1)..(16)
 <223> Xaa = any amino acid

<400> 105
 Cys Xaa Xaa Tyr Gly Asn Ser Pro Lys Gly Phe Ala Tyr Xaa Xaa Cys
 1 5 10 15

<210> 106
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:CDR3 peptide

<400> 106
 Phe Arg Asn Arg Gly Met Thr Ala Leu Leu Lys Val Ser Ser Cys Asp
 1 5 10 15

<210> 107
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:portion of
 plasmid pMycHis6 with pelB-leader, polylinker and
 c-myc tag

<400> 107

Leu Ala Ala Gln Pro Ala Met Ala Gln Val Gln Leu Gln Ala Arg Leu
 1 5 10 15

Gln Val Asp Leu Glu Ile Lys Arg Ala Ala Ala Glu Gln Lys
 20 25 30

<210> 108

<211> 90

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:portion of
 plasmid pMycHis6 with pelB-leader, polylinker and
 c-myc tag

<400> 108

ctcgcggccc agccggccat ggcccaggtg cagctgcagg cgcgcctgca ggtcgacctc 60
 gagatcaaac gggcggccgc agaacaaaaa 90

<210> 109

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:c-myc-tag

<400> 109

Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Gly
 1 5 10

<210> 110

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:His6-tag

<400> 110

His His His His His His
 1 5

<210> 111

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:flexible linker

<400> 111

Gly Gly Gly Gly Ser Gly Gly Arg Ala Ser Gly Gly Gly Gly Ser
 1 5 10 15

<210> 112

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: A1 peptide core
sequence

<400> 112

Glu Gly Gly Gly Tyr Tyr Val Asn Trp Tyr Phe Asp
1 5 10